

# ATTORNEY DOCKET NO. 17104.0005U2 PATENT Page 1 of 2

### N THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of	
Abarzua et al.	
)	Group Art Unit: 1637
U.S. Patent No. 6,777,183 09827289	Examiner: Jeffrey N. Fredman
Issue Date: August 17, 2004	Confirmation No. 5725
For: PROCESS FOR ALLELE	
DISCRIMINATION UTILIZING )	
PRIMER EXTENSION )	

## REVOCATION OF PRIOR POWER OF ATTORNEY, APPOINTMENT OF NEW POWER OF ATTORNEY, AND STATEMENT UNDER 37 C.F.R. § 3.73(b)

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450 NEEDLE & ROSENBERG, P.C. Customer Number 23859

Sir:

### **STATEMENT UNDER 3.73(b)**

QIAGEN GmbH, a corporation of Germany states that it is the Assignee of the entire right, title and interest in the patent application identified above as evidenced by the following chain of title:

1. From: Patricio Abarzua
To: Molecular Staging, Inc.

Recorded at Reel 011902/Frame 0723

2. From: Molecular Staging, Inc.

To: QIAGEN GmbH

A copy of which is attached hereto.



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### **REVOCATION OF PRIOR POWER OF ATTORNEY**

As a representative authorized to act on behalf of QIAGEN GmbH hereby revoke all previous Powers of Attorney previously given.

### **NEW POWER OF ATTORNEY**

The following attorneys/agents are hereby appointed to represent the above-identified Assignee in connection with all matters pertaining to the above-referenced application, with full power of substitution, association and revocation, to prosecute said application and to transact all business in the U.S. Patent and Trademark Office connected therewith.

The attorneys/agents associated with Customer No. 23859

Address all telephone calls to Robert A. Hodges, Esq. at (678) 420-9300.

Address all correspondence to the address of record for the following Customer Number:

Customer No. 23859

The undersigned (whose title is supplied below) is authorized to act on behalf of the Assignee.

**QIAGEN GmbH** 

By:

Dr. Jogchim Schorr

Title:

Managing Director

Sen. VP Global

Date:

Research & Development

27.02.06

## **ASSIGNMENT OF PATENTS**

WHEREAS, Molecular Staging Inc. (hereafter "Assignor"), a Delaware corporation having a principal place of business at 300 George Street, New Haven, Connecticut 06511, is the owner of the patents (the "Patents") and the patent applications (the "Patent Applications") set forth on Schedule A attached hereto (collectively the "Patents and Patent Applications"), and the inventions described in and claimed therein (the "Inventions"); and,

WHEREAS, QIAGEN GmbH (hereafter "Assignee"), a German Gesellschaft mit beschraenkter Haftung having a place of business at Qiagen Str. 1, Hilden, 40724 Germany, is desirous of acquiring the entire right, title and interest of Assignor in and to said Patents, Patent Applications and Inventions.

NOW, THEREFORE, TO ALL WHOM IT MAY CONCERN, BE IT KNOWN, that for good and valuable consideration in the amount of ten dollars, the receipt of which is hereby acknowledged, Assignor has sold, assigned, transferred and conveyed and by these presents does hereby sell, assign, transfer and convey, unto said Assignee, its successors and assigns, its entire right, title and interest in and to

- (1) the Patents and Patent Applications throughout the world, the Inventions, all divisions, continuations, continuations-in-part and renewals of such Patents and Patent Applications, all patents which may be granted on such Patent Applications and Inventions, and all reissues, re-examinations and extensions thereof; and all reissues, re-examinations and extensions of such Patents;
  - (2) all applications for industrial property protection, including, without limitation, all

applications for patents, utility models, and designs which may hereafter be filed for an invention described in any of the Patents or Patent Applications in any county or counties foreign to the United States, together with the right to file such applications and the right to claim for the same the priority rights derived from the Patents or Patent Applications under the Patent Laws of the United States, the Paris Convention, the International Convention for the Protection of Industrial Property, or any other international agreement or the domestic laws of the country in which any such application is filed, as may be applicable;

- (3) all forms of industrial property protection, including, without limitation, patents, utility models, inventors' certificates and designs which may be granted for the Inventions in any country or countries foreign to the United States and all extensions, renewals and reissues thereof; and
- (4) all claims for damages by reason of past infringement, with the right to sue for, and collect the same for the use of Assignee, its successors and assigns, as well as all of the rights incident to such ownership, including but not limited to manufacturing, use, sale and importation of the products and/or methods evidenced by the Patents and Patent Applications.

Assignor hereby authorizes and requests the Commissioner of Patents and Trademarks of the United States, and any official of any country or countries foreign to the United States, whose duty it is to issue patents or other evidence or forms of industrial property protection on applications as aforesaid, to issue the same to the Assignee, its successors, legal representatives and assigns, in accordance with the terms of this instrument.

Assignor hereby covenants and agrees that it has full right to convey the entire interest herein assigned, and that it has not executed, and will not execute, any agreement in conflict herewith.

This Assignment is effective as of the 24<sup>th</sup> day of September, 2004.

IN WITNESS WHEREOF, Assignor has caused these presents to be signed by a duly authorized officer.

MOLECULAR STAGING INC., Assignor

Name: GREGOLYE GARDINEY

Title: Director

On this \_\_\_\_\_\_\_, day of \_\_\_\_\_\_\_\_, 2005, before me, a Notary Public, came \_\_\_\_\_\_\_\_, 2005, before me, a Notary Public, came \_\_\_\_\_\_\_\_, to me known and known to be the individual described in and who executed the foregoing assignment, and he duly acknowledged the same to be his free act and deed.

Notary Public TIROTHY F FOLEY Je

My Commission Expires: 1-31-69

This Assignment is effective as of the 24<sup>th</sup> day of September, 2004.

IN WITNESS WHEREOF, Assignee has caused these presents to be signed by a duly authorized officer.

QIAGEN GmbH, Assignee

CEO

Name

Title:

Peer Schatz

Witness:
Brigitte Lange-Rogi
Signature: Enifille Lange-Rofi
Witness:
Heidi Boulton
Signature:



<u>Schedule A</u>

Patents and Patent Applications

Title	Country	Serial Number	Patent Number
Signal amplification with Lollipop probes	us	09/897,259	6,686,157
Protein expression profiling	US	09/597,836	6,531,283
Process for allele discrimination using primer extension	US	09/827,289	6,777,183
Polyprimed amplification of nucleic acid sequences	us	09/577,444	6,291,187
Polyprimed amplification of nucleic acid sequences	us	09/897,665	6,670,126
Open circle probes with intramolecular stem structures	us	09/803,713	6,573,051
Nucleic acid amplification	US	09/982,212	6,617,137
Multiply primed amplification of nucleic acid sequences	us	09/605,192	6,323,009
Generation of single stranded circular DNA from linear self	us	09/723,685	6,498,023
Detection and amplification of RNA using target-mediated ligation of DNA by RNA ligase	us	09/547,757	6,368,801
5' Thiophosphate- directed ligation of oligonucleotides and use in detection of single nucleotide polymorphisms	us	09/910,372	6,635,425
5' Thiophosphate- directed ligation of oligonucleotides and use in detection of single nucleotide polymorphisms	us	10/465,759	6,811,986
Methods for selectively isolating DNA using rolling circle amplification	US	09/398,216	6,235,502
Methods for selectively isolating DNA using rolling circle amplification	us	09/818,927	6,576,448

Methods for selectively		20/200	C 007 00C
isolating DNA using	US	09/398,217	6,287,825
rolling circle			
amplification			
Methods for selectively		i	
isolating DNA using	US	09/562,331	6,346,399
rolling circle		}	
amplification			
Methods for selectively			
isolating DNA using	US	09/562,332	6,372,434
rolling circle			
amplification		}	
Methods for identifying			
DNA sequences for use	US		
in comparison of DNA	CD	09/398,215	6,150,112
samples by their lack of		03/336,213	0,130,112
		ì	
polymorphism	····		
METHOD OF		204452.000	C 000 004
AMPLIFICATION	US	09/460,078	6,830,884
Universal RCA	US	10/405,822	
<u>}</u>			
Suppression of cross-	·		
reactivity and non-	us	09/931,736	
specific binding of			
antibodies by Protein A			
Suppression of cross-	· · · · · · · · · · · · · · · · · · ·		
reactivity and non-	US/CON	10/931,015	
specific binding of	0.00011	1	
antibodies by Protein A			
Suppression of cross-		PCT/US02/27097	
	WA	PC1/0302/2/09/	
reactivity and non-	wo		
specific binding of			
antibodies by Protein A	·····		
Signal Amplification			
with Lollipop Probes	JP	2002-508032	
Signal Amplification	EP	1950759.9	
with Lollipop Probes			
Signal Amplification	CA	2411794	
with Lollipop Probes			
Signal Amplification	AU	2001-271722	
with Lollipop Probes			
Rolling Circle	US	10/335,573	
amplification of RNA		10.000,010	
Rolling Circle	PCT	PCT/US03/39430	
amplification of RNA	rei	EC.110303137430	
Real time detection of			
	110	10/225 555	
rolling circle	US	10/325,665	
amplification products	1101000	<u> </u>	
Protein Expression	US/CON	10/341,287	
Profiling			
Protein Expression	AU	2001-269944	
Profiling			
	CA	2,411,838	
Protein Expression	CA.		
	CA		
Protein Expression Profiling Protein Expression	EP	1948505.1	

Destain F		2002 503102	
Protein Expression	JP	2002-503102	
Profiling		101/5/2	
Protein Expression	CN	1811542	
Profiling	/EVEZ/	90114960	
Protein Expression	TW	90114960	
Profiling		200207285 8	
Protein Expression	SG	200207285-8	
Profiling	12/0	DCT#1001/10/57	
Protein Expression	wo	PCT/US01/19657	
Profiling			
Process for enhanced molecular target		}	
	110	10/177 620	
detection using layered rolling circle	US	10/177,629	
amplification			
Open circle probes with			
intramolecular stem	US/DIV	10,404,944	
structures	US/DIV	10,404,744	
Nucleic Acid	US	09/977,868	L
Amplification	US	09/9//,008	
Nucleic Acid	WO	WO03033724A	
Amplification	WU	W 003033724A	
Nucleic Acid	CA	2463933	
Amplification	CA	2403933	
Nucleic Acid	AU	2002362874	
Amplification	AU	2002302874	
Nucleic Acid	EP	2801776.2	
Amplification	LI	2001//0.2	
Nucleic Acid	US/CIP	10/272 465	
Amplification	US/CIP	10/272,465	
Nucleic Acid	US/CIP	10/327,602	
Amplification	DACIP	10/32/,002	
Nucleic Acid	US/CIP	10/429,229	
Amplification	USICIF	10/467,667	
Nucleic acid			
amplification - PCT of	PCT	PCT/US03/40364	Į.
10/327,602;	101	101/0003/40304	
10/429,229; 10/456,056		ļ	
Quality assessment of	<del></del>	1	
amplified genomic	US	10/854,021	
nucleic acids	2/3	10,007,021	
Multiply primed	·		
amplification of nucleic	DIV	09/920,571	
acid sequences	<i>2</i> 1 v	03/720,071	
Multiply primed			
amplification of nucleic	JP	2002/506247	1
acid sequences	<b>J</b> I	255250247	
Multiply primed			T
amplification of nucleic	EP	1946712.5	
acid sequences	<del></del>		
Multiply primed		<del>                                     </del>	
amplification of nucleic	AU	200168725	
acid sequences			
Multiply primed		1	
amplification of nucleic	CA	2410951	
acid sequences	<del></del>		ł
Multiply primed	<del> </del>		
amplification of nucleic	IL	153,097	
acid sequences	•		ł
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Methods for reducing	**************************************	!	
the complexity of DNA	US/DIV	}	
sequences		:	
Methods for identifying			
genes associated with	wo	PCT/US01/42827	į
diseases of specific		1	
phenotypes		}	!
Methods for identifying			
genes associated with	US	09/984,348	
diseases of specific		03/304,540	
phenotypes			
Method of WGA with	·	1	
reduced artifact	US	10/456,056	
production			
Method for reducing			
artifacts in nucleic acid	US	09/514,113	
amplification			
Method for reducing			
artifacts in nucleic acid	AU	41864/01	
amplification	AU	11007/01	
	·		
Method for reducing	2210	DCT///COL/OCIO	
artifacts in nucleic acid	wo	PCT/US01/06491	•
amplification			
Method for reducing			
artifacts in nucleic acid	EP	1913174.7	
amplification			
Method for reducing			
artifacts in nucleic acid	CA	2,401,650	
amplification	CA	2,101,000	
Method for reducing			
	tn	2001 562620	
artifacts in nucleic acid	JP	2001-563639	
amplification			
Method for reducing			
artifacts in nucleic acid	JP	2001-563639	
amplification			
Method and			- TANKS
compositions for	US	1	
efficient and specific		10/325,490	
rolling circle		}	
amplification			
	<del></del>		······
Detection method using	***	10/070 555	
dissociated rolling circle	US	10/072,666	
amplification			
Generation of single			
stranded circular DNA	US	10/196,539	
from linear self			
Generation of single			
stranded circular DNA	wo	PCT/US00/32370	
from linear self	., •	101.000.000	
Gene Expression	US	09/910,383	
	US	U7/71U,363	
Profiling	11/0	DOTTE SOON (SEE SEE	
Gene Expression	wo	PCT/US02/15045	
Profiling			
Double ligation			
Proximity mediated	US	10/454,946	
RCA		1	
Detection method using			
dissociated rolling circle	PCT	PCT/US08/00678	
amplification	101	101.000,000,0	

Conjugates of reduced		1	
antibodies and	US	10/143,517	
biomoleculaes	1		
Signal Amplification	wo	PCT/US01/20933	
with Lollipop Probes			
Signal Amplification	US	60/215,639	
with Lollipop Probes			
Repetitive enzymatic		60/151,164;	
generation of single-	US	60/222,799;	
stranded circular DNA		60/309,331	
		00/303/231	
Process for enhanced			
molecular target	US	60/299,345	
detection using layered	)	00/275,545	
rolling circle		i I	
amplification	<u> </u>	<b>\</b>	
Process for enhanced			
molecular target	wo	į	
	WU	1	
detection using layered		_	
rolling circle	1	}	,
amplification			
Process for allele			
discrimination using	US	60/194,843	
primer extension			
Process for allele	}	}	
discrimination using	wo	PCT/US01/11151	
primer extension			
Process for allele			
discrimination using	JP	2001-575244	
primer extension		}	
Process for allele			
discrimination using	EP	469920-105	
primer extension			
Process for allele			
discrimination using	CA	2,405,687	
primer extension	0	2,105,007	
Process for allele			
discrimination using	AU	2001/251359	
primer extension	1	2001/231339	1
Polyprimed			
amplification of nucleic	US	60704.057	
acid sequences	US	60/204,057	į
	<del> </del>		
Polyprimed	1 220	DCT//1000/1/6120	
amplification of nucleic	wo	PCT/US00/16130	
acid sequences			
Polyprimed			
amplification of nucleic	JP	469290-18	ļ
acid sequences			
Polyprimed			
amplification of nucleic	EP	938263.1	ł
acid sequences			
Polyprimed			
amplification of nucleic	CA		
acid sequences			ļ
Polyprimed			
amplification of nucleic	AU	1	
acid sequences			)
Phosphorothiolate-			
directed ligation of	US	60/259,918	ì
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oligonucleotides	····		
Open circle probes with			
intramolecular stem	wo	PCT/US02/02601	
1	WU	PC1/0302/02001	
structures		· · · · · · · · · · · · · · · · · · ·	
Open circle probes with			
intramolecular stem	TW	91102150	
structures			
Generation of single			
stranded circular DNA	US	60/168,511	
from linear self			
Generation of single			
stranded circular DNA	JP	20011542579	
from linear self	<b></b>	30011312313	
Generation of single			
	77 P	000007	
stranded circular DNA	EP	980827	
from linear self			
Generation of single		1	
stranded circular DNA	CA	2,360,342	
from linear self			
Generation of single			
stranded circular DNA	AU	18040/01	
from linear self		100 10/01	
Detection and			
amplification of RNA	JP		
	JF	2001 577404	
using target-mediated		2001-577404	
ligation of DNA by			
RNA ligase			·
Detection and			
amplification of RNA	EU		
using target-mediated		1928481.9	
ligation of DNA by			
RNA ligase		}	
Detection and			
amplification of RNA	CA		
using target-mediated	<b>C.1.</b>	2405456	
ligation of DNA by		2403430	
RNA ligase			
Detection and	<del></del>		
amplification of RNA	AU	Tion and the second	
using target-mediated		US55331/01	
ligation of DNA by			
RNA ligase			
Detection and			<del></del>
amplification of RNA	wo		
using target-mediated		PCT/ 01/11947	
ligation of DNA by			
RNA ligase			
Conjugates of reduced			
antibodies and	US	60/299,671	
biomolecules	US	00/233,071	
Conjugates of reduced		200000000000000000000000000000000000000	
antibodies and	PCT	PCT/US02/14644	
biomolecules	<u> </u>		
5' Thiophosphate-			
directed ligation of	EP		
oligonucleotides and		1	
use in detection of		}	,
single nucleotide			
polymorphisms		}	
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5' Thiophosphate-			
directed ligation of		1	
oligonucleotides and	CA	2,433,634	
use in detection of			1
single nucleotide			
polymorphisms		1	
5' Thiophosphate-		<del></del>	<del></del>
directed ligation of			
oligonucleotides and	AU	2002/239809	1
use in detection of	AU	20021237607	1
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single nucleotide		1	}
polymorphisms		<u> </u>	
5' Thiophosphate-			
directed ligation of	_		1
oligonucleotides and	wo		
use in detection of		PCT/US02/00005	<b>\</b>
single nucleotide			
polymorphisms			
Methods for selectively			
isolating DNA using		60/100,996	
rolling circle	US		}
amplification			
Methods for selectively			1
isolating DNA using	US	09/820,356	
	US	09/820,330	
rolling circle		}	<b>}</b>
amplification		<u> </u>	1
Methods for reducing	US		j
the complexity of DNA		60/100,999	
sequences			
Methods for identifying			
DNA sequences for us		- 60/100,935	
in comparison of DNA	US		1
samples by their lack of			
polymorphism		}	1
Methods for identifying		† · · · · · · · · · · · · · · · · · · ·	<del> </del>
genes associated with		60/243,407	
disease of specific	US	001243,401	
phenotypes	UG		1
Multiply primed	<u> </u>	<del>}</del>	<del> </del>
amplification of nucleic	WA	DCT/IG01/200217	
	wo	PCT/US01/200217	-
acid sequences		<del> </del>	
Method of			
Amplification of a	US	60/112,370	}
circularized nucleic acid			
probe			
Method of			
Amplification of a	AU	27819/00	1
circularized nucleic acid	·	1	}
probe			
Method of	- <del></del>		
Amplification of a	CA	2,394,800	1
circularized nucleic acid	CA	2,334,600	1
probe			
Method of		<del> </del>	<del> </del>
	Th.	00000000	į
Amplification of a	EP	99969209.8	
circularized nucleic acid			
probe			
Method of		2000-588388	
Amplification of a	JP		}
circularized nucleic acid			1

probe	· · · · · · · · · · · · · · · · · · ·		
Method of	<del> </del>		
Amplification of a	wo	PCT/AU99/01110	
circularized nucleic acid	WU	FC1/A099/01110	
probe		1	
A cascade nucleic acid	US		
amplification reaction	US	00/001 146	
A cascade nucleic acid	US	09/091,146	
amplification reaction	US	00/465 500	
A cascade nucleic acid	WO	09/465,590	
	wo	DOT/DV06/00613	
amplification reaction	TIO	PCT/DK96/00513	
Cascade rolling circle	US	00/255 042	
DNA amplification	EP	09/356,843	· · · · · · · · · · · · · · · · · · ·
A cascade nucleic acid	EP	060309313	0.000.520
amplification reaction	110	96939821.3	0 868 530
A cascade nucleic acid	us	20455 500	6.610.401
amplification reaction	<del></del>	09/465,589	6,610,481
A cascade nucleic acid	AU		
amplification reaction		76917/96	704750
A cascade nucleic acid	ÐK	}	
amplification reaction		868530	0 868 530
A cascade nucleic acid	DE		
amplification reaction		696 27 698.4-08	0 868 530
A cascade nucleic acid	СН		
amplification reaction		868530	0 868 530
A cascade nucleic acid	BE		
amplification reaction		868530	0 868 530
A cascade nucleic acid	SE		
amplification reaction		<del>96939</del> 821.3	0 868 530
A cascade nucleic acid	NL		
amplification reaction		868530	<b>0 868 530</b>
A cascade nucleic acid	IT		
amplification reaction		868530	0 868 530
A cascade nucleic acid	GB		
amplification reaction		868530	0 868 530
A cascade nucleic acid	EP/DIV		
amplification reaction		3000499.8	
A cascade nucleic acid	CA		
amplification reaction		2239287	
A cascade nucleic acid	FR		· · · · · · · · · · · · · · · · · · ·
amplification reaction		868530	0 868 530
Method of amplification	US/CON		
of a circularized nucleic		10/917,580	
acid probe		1	